

## CLAIMS

What is claimed is:

1. An external governor spring bracket assembly for use in combination with a shaft-mounted governor valve assembly in an automatic transmission, said governor valve assembly including a primary valve weight disposed in opening and closing relation to a governor fluid outlet, said spring bracket assembly comprising:

    a compression spring disposed in coaxial engagement with said primary valve weight; and

    a governor spring bracket conforming generally to an external surface of said governor valve assembly, wherein said bracket supports said compression spring in engagement with said primary governor weight, said compression spring urging said primary governor weight to a closed condition in relation to said governor fluid outlet thereby preventing excessive governor output pressure at low shaft speed.

2. A governor spring bracket assembly of Claim 1 wherein a spring seat is formed in said bracket in coaxial alignment with said governor spring weight.

3. A governor spring bracket assembly of Claim 2 wherein said spring seat includes a central relief aperture that provides clearance for said primary governor weight at the furthest extent of its outward travel.

4. A governor spring bracket assembly of Claim 2 wherein said compression spring is disposed in said spring seat intermediate said primary governor weight and said bracket to counterbalance the centrifugal force acting on said primary governor valve weight upon rotation of said governor valve assembly.

5. A governor spring bracket assembly of Claim 4 wherein said compression spring is calibrated to a predetermined spring rate.

6. A governor spring bracket assembly of Claim 1 wherein said bracket includes perpendicular mounting tabs integrally formed on the opposed side edges of said bracket member at opposite ends thereof for attachment to said governor valve assembly.

7. A governor spring bracket assembly of Claim 6 wherein said bracket is attached to said external surface of said governor valve assembly by mechanical fasteners extending through said mounting tabs.

8. An improved shaft-mounted governor valve assembly for use in combination

with an automatic transmission , wherein said governor valve assembly includes a primary valve weight and a secondary valve weight actuated by centrifugal force to open and close a governor fluid outlet, wherein the improvement comprises:

    a governor spring bracket assembly comprising a compression spring and a governor spring bracket conforming generally to an external surface of said governor valve assembly, wherein said bracket supports said compression spring in functional engagement with said primary governor weight, said compression spring urging said primary governor weight to a closed condition in relation to said governor fluid outlet thereby preventing excessive governor output pressure at low output shaft speed.

9. An improved shaft-mounted governor valve assembly of Claim 8 wherein a spring seat is formed in said bracket in coaxial alignment with said primary governor weight.

10. An improved shaft-mounted governor valve assembly of Claim 9 wherein said spring seat includes a central relief aperture that provides clearance for said primary governor weight at the furthest extent of its outward travel.

11. An improved shaft-mounted governor valve assembly of Claim 9 wherein said compression spring is disposed in said spring seat intermediate said primary governor weight and said bracket to counterbalance centrifugal force acting on said primary governor valve weight upon rotation of said governor valve assembly.

12. An improved shaft-mounted governor valve assembly of Claim 11 wherein said compression spring is calibrated to a predetermined spring rate.

13. An improved shaft-mounted governor valve assembly of Claim 8 wherein said bracket includes perpendicular mounting tabs integrally formed on opposed side edges of said bracket at opposite ends thereof for attachment to said governor valve assembly.

14. An improved shaft-mounted governor valve assembly of Claim 13 wherein said bracket is attached to said external surface of said governor valve assembly by mechanical fasteners extending through said mounting tabs.

15. A method of counterbalancing centrifugal force acting on a governor valve weight within a shaft-mounted governor valve assembly in an automatic transmission, wherein said valve weight is actuated by said centrifugal force to open a governor fluid

outlet upon rotation of said governor valve assembly, said method comprising the steps of:

providing a governor spring bracket assembly including a compression spring and a governor spring bracket conforming to an external surface of said governor valve assembly;

positioning said compression spring intermediate said bracket and said primary governor weight in coaxial alignment such that said spring engages said weight;

attaching said governor spring bracket assembly on said external surface of said governor valve assembly; and

spring biasing said primary governor weight radially inward to a closed position in relation to said governor fluid outlet to counterbalance said centrifugal force thereby preventing excessive governor output pressure at low output shaft speed.

16. The method of Claim 15 wherein the step of providing further includes the step of:

calibrating said compression spring to a predetermined spring rate.

17. The method of Claim 15 wherein the step of attaching is carried out by mechanical fasteners such as machine screws.